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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/710,574	07/21/2004	Igor Touzov		4573
34185	7590	07/26/2007		
IGOR V TOUZOV 212 CRESTONE DRIVE CARY, NC 27513			EXAMINER SHAH, SAMIR M	
			ART UNIT 2856	PAPER NUMBER
			MAIL DATE 07/26/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/710,574	Applicant(s) TOUZOV, IGOR	
	Examiner Samir M. Shah	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 May 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant has provided no arguments in response to the previous Office Action mailed on 3/01/2007.

Claim Objections

2. Claims are objected to because of the following informalities:
 - (a) As to claim 1, line 1, delete "a subject method" and replace it with --a subject, said method--.
 - (b) As to claim 1, line 4, delete "sensor(s)" and replace it with --said at least one sensor--.
 - (c) As to claim 1, lines 4 and 5, delete each instance of "priory" and replace it with --priorly--.
 - (d) As to claim 3, delete "has apparatus" and replace it with --has the apparatus--.
 - (e) As to claim 4, line 1, delete "where in" and replace it with --wherein--.
 - (f) As to claim 5, line 1, delete "A method" and replace it with --The method--.
 - (g) As to claim 9, line 1, delete "where in" and replace it with --wherein--.Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 4, 6 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(a) Claim 4 recites the limitation "object of claim 3" in 1st line. There is insufficient antecedent basis for this limitation in the claim.

(b) Claim 4 recites the limitation "the apparatuses" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

(c) Claim 11 depending from indefinite claim 4 is indefinite for the same reason. Moreover, it is not clear as to what "apparatus" of claim 4 is being referred to in claim 11.

(e) As to claim 6, the phrase "and/or" renders the claim(s) indefinite because the claim(s) may (in the case of "and") or may not (in the case of "or") include the limitations immediately before and after the phrase "and/or", thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-6, 9 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanielian et al. (US Patent 6,134,485 henceforth "Tanielian").

(a) As to claim 1, Tanielian discloses a method of nondestructive structural integrity monitoring of a subject/[surfaces on the body, wings, nacelle, tail and engine of] an aircraft (12), said method only uses information obtained through at least one mounted sensor/piezoelectric sensors/strain gages/piezoresistive sensors (42, 44) that measures physical properties/parameters (such as airframe) of said subject/an aircraft (12), wherein information from said at least one sensor (42, 44) is analyzed by computing means/digital signal processor (66)/controller (38) to determine presence of priorly defined characteristics specific to the subject/an aircraft (12), wherein said priorly defined characteristics are either computed by said computing means/digital signal processor (66)/controller (38) at some early time frame or preset or both, and said method does not use any actuators that might send energetic signals to probe said subject/an aircraft (12), and results of said method do not rely on successful acquisition of acoustic emission (figures 1-4, 8; column 1, lines 3 - column 2, lines 10; column 2, lines 34-35, 48-67; column 3, lines 48-55; column 5, lines 3-10, 28-43; column 6, lines 10-50; column 8, lines 19-50; column 9, lines 3-5, 12-18).

(b) As to claim 2, Tanielian discloses a digital processing apparatus (66) implementing the method of claim 1 and at least one passive/piezoresistive sensor (42, 44) providing measurements to said processing apparatus (66) (figures 1-4, 8; column 5, lines 3-11; column 6, lines 10-33).

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(c) As to claim 3, Tanielian discloses an airplane (12) that has the apparatus (66) of claim 2 built-in (figures 1-4, 8; column 4, lines 15-37; column 6, lines 22-33).

(d) As to claim 4, Tanielian discloses a plurality of apparatuses (66) being connected by a network capable application processor (NCAP) (column 2, lines 28-36).

(e) As to claim 5, Tanielian discloses sensing physical parameters such as "mechanical strain" which would inherently provide data that can be employed to report unusual usage events or usage patterns (column 3, lines 7-18).

(f) As to claim 6, Tanielian discloses an implementation of the method of claim 1 that utilizes signal networks/wireless interface to transmit information to a remote location/ground (column 3, lines 43-55).

(g) As to claim 9, Tanielian discloses a single physical node being used to process data from multiple independent subjects (column 4, lines 15-29).

(h) As to claim 11, Tanielian discloses using a network/NCAP to electrically connect the various components within the apparatus and thus, use it as an energy source (column 2, lines 47-57; column 3, lines 19-42).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanielian as applied to claim 1 above, and further in view of Breed (US Patent Application Publication 2003/0009270 A1 henceforth "Breed").

(a) As to claim 7, Tanielian does not expressly disclose forecasting recommended time of own replacement for an object that utilizes the method of claim 1.

Breed discloses predicting the failure of a particular component of an automobile or an airplane, or forecasting recommended time for the replacement of a part (such as tire) of an object (such as an automobile) (figures 3, 5; paragraphs 0072, 0106-0109, 0298, 0454, 0571).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Tanielian method to include utilizing it for an object to forecast recommended time of own replacement because this would help to "prevent vehicle breakdowns", to "alert the driver of the vehicle that a component of the vehicle is functioning differently than normal and might be in danger of failing" and achieve other benefits as taught by Breed.

10. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanielian, as applied to claim 1 above.

(a) As to claim 10, the Examiner takes Official Notice that digital processors that use an independent/autonomous energy source are well known in the art to provide processing functionality without the need for an external power source. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a digital processor with an autonomous energy source because this would improve the mobility of the processor and eliminate the need for providing an external power source for the processor.

Conclusion


11. The prior art made of record and not relied upon, cited in the attached 892 form, is considered pertinent to applicant's disclosure.


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12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samir M. Shah whose telephone number is (571) 272-2671. The examiner can normally be reached on Monday-Friday 9:30 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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Art Unit 2856
07/16/2007


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